




TEST REPORT

For FCC Part15B

Report No......: **CHTEW22050038** Report Verification: 

Project No......: **SHT2204009703EW**

FCC ID.....: **Q5EDP81502**

Applicant's name.....: **Kirisun Communication Co.,Ltd.**

Address.....: 3rd Floor, Building A, Tongfang Information Harbour, No.11
Langshan Road, Nanshan District, Shenzhen 518057, P.R.China

Test item description: **I.S.Digital Radio**

Trade Mark: KIRISUN

Model/Type reference.....: DP815

Listed Model(s): -

Standard: **FCC CFR Title 47 Part 15 Subpart B**

Date of receipt of test sample.....: Apr.12, 2022

Date of testing.....: Apr.12, 2022-May.06, 2022

Date of issue.....: May.07, 2022

Result.....: **PASS**

Compiled by
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Testing Laboratory Name: **Shenzhen Huatongwei International Inspection Co., Ltd.**

Address.....: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao,
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The test report merely corresponds to the test sample.

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1. TEST STANDARDS AND REPORT VERSION

1.1. Test Standards

The tests were performed according to following standards:

[FCC CFR Title 47 Part 15 Subpart B](#) - Unintentional Radiators

[ANSI C63.4: 2014](#) – American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40GHz

1.2. Report version

Revision No.	Date of issue	Description
N/A	2022-05-07	Original

2. TEST DESCRIPTION

Section	Test Item	Section in CFR 47	Result	Test Engineer
5.1	Conducted Emissions	15.107(a)	Pass	Quanhai Deng
5.2	Radiated Emissions	15.109(a)	Pass	Hongtao Meng

Note:

#1: The test result does not include measurement uncertainty value

3. SUMMARY

3.1. Client information

Applicant:	Kirisun Communication Co.,Ltd.
Address:	3rd Floor, Building A, Tongfang Information Harbour, No.11 Langshan Road, Nanshan District, Shenzhen 518057, P.R.China
Manufacturer:	Kirisun Communication Co.,Ltd.
Address:	3rd Floor, Building A, Tongfang Information Harbour, No.11 Langshan Road, Nanshan District, Shenzhen 518057, P.R.China

3.2. Product description

Main unit information:	
Name of EUT:	I.S.Digital Radio
Trade mark:	KIRISUN
Model/Type reference:	DP815
Listed model(s):	-
Power supply:	DC7.4V from battery
Hardware version:	V1.0
Software version:	5.24.246
Accessory unit information:	
Charger information:	Model: KBC-810Q Input: 12Vd.c., 1000mA Output: 800mA
Adapter information:	Model: FJ-SW126K1201000DU Input: 100-240Va.c., 50/60Hz 0.4A Max Output: 12Vd.c., 1000mA

3.3. Testing Laboratory Information

Laboratory Name	Shenzhen Huatongwei International Inspection Co., Ltd.	
Laboratory Location	1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China	
Connect information:	Tel: 86-755-26715499 E-mail: cs@szhtw.com.cn http://www.szhtw.com.cn	
Qualifications	Type	Accreditation Number
	FCC	762235

4. TEST CONFIGURATION

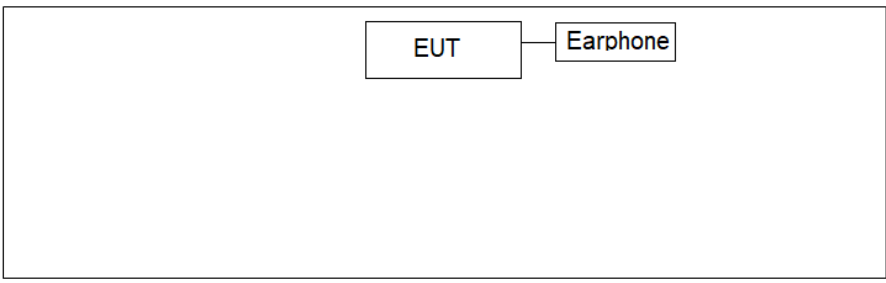
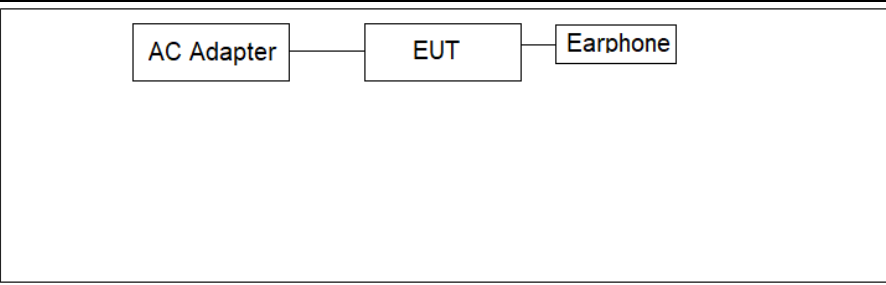
4.1. Operation mode

Test mode	Describe
Charging mode	Keep the EUT in charging mode, but the EUT shut down.
Receive mode	Keep the EUT in receiving mode, but don't charging.

Pre-scan above all test mode, found below test mode which it was worse case mode, so only show the test data for worse case mode on the test report

Test item	Test mode for worse case
Conducted emissions	Charging mode
Radiated emissions	Charging mode

4.2. Configuration of Tested System

Test mode	Configuration
Receiving mode	 <pre> graph LR EUT[EUT] --- Earphone[Earphone] </pre>
charging mode	 <pre> graph LR ACAdapter[AC Adapter] --- EUT[EUT] EUT --- Earphone[Earphone] </pre>

4.3. Environmental condition

Type	Requirement	Actual
Temperature:	15~35°C	25°C
Relative Humidity:	25~75%	50%
Air Pressure:	860~1060mbar	1000mbar

4.4. Statement of the measurement uncertainty

Test Items	MeasurementUncertainty
Conducted emission	3.25dB
Radiated emission	<1GHz: 4.22dB >1GHz:5.06ppm

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

4.5. Equipments Used during the Test

● Conducted Emission							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Shielded Room	Albatross projects	HTWE0114	N/A	N/A	2018/09/28	2023/09/27
●	EMI Test Receiver	R&S	HTWE0111	ESCI	101247	2021/09/14	2022/09/13
●	Artificial Mains	SCHWARZBECK	HTWE0113	NNLK 8121	573	2021/09/17	2022/09/16
●	Pulse Limiter	R&S	HTWE0193	ESH3-Z2	101447	2021/09/16	2022/09/15
●	RF Connection Cable	HUBER+SUHNER	HTWE0113-02	ENVIROFLEX_142	EF-NM-BNCM-2M	2021/09/17	2022/09/16
●	Test Software	R&S	N/A	ES-K1	N/A	N/A	N/A

● Radiated Emission-6th test site							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Semi-Anechoic Chamber	Albatross projects	HTWE0127	SAC-3m-02	C11121	2018/09/30	2022/09/29
●	EMI Test Receiver	R&S	HTWE0099	ESCI	100900	2021/09/14	2022/09/13
●	Ultra-Broadband Antenna	SCHWARZBECK	HTWE0119	VULB9163	546	2020/04/28	2023/04/27
●	Pre-Amplifier	SCHWARZBECK	HTWE0295	BBV 9742	N/A	2021/11/05	2022/11/04
●	RF Connection Cable	HUBER+SUHNER	HTWE0062-01	N/A	N/A	2022/02/25	2023/02/24
●	RF Connection Cable	HUBER+SUHNER	HTWE0062-02	SUCOFLEX104	501184/4	2022/02/25	2023/02/24
●	Test Software	R&S	N/A	ES-K1	N/A	N/A	N/A

● Radiated emission-7th test site							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Semi-Anechoic Chamber	Albatross projects	HTWE0122	SAC-3m-01	C11121	2018/09/27	2022/09/26
●	Spectrum Analyzer	R&S	HTWE0098	FSP40	100597	2021/09/13	2022/09/12
●	Horn Antenna	SCHWARZBECK	HTWE0126	9120D	1011	2020/04/01	2023/03/31
●	Broadband Pre-amplifier	SCHWARZBECK	HTWE0201	BBV 9718	9718-248	2022/02/28	2023/02/27
●	RF Connection Cable	HUBER+SUHNER	HTWE0126-01	RE-7-FH	N/A	2022/03/04	2023/03/03
●	Test Software	Audix	N/A	E3	N/A	N/A	N/A

5. TEST CONDITIONS AND RESULTS

5.1. Conducted Emissions

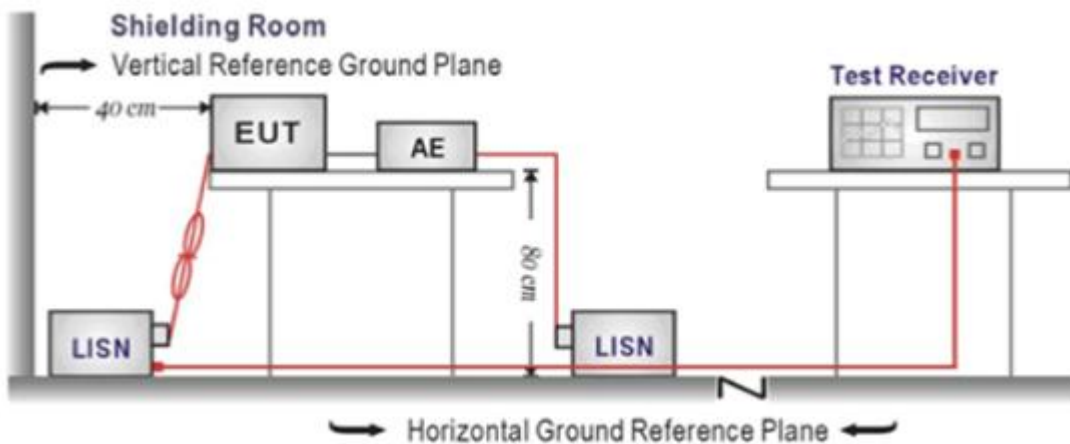
LIMIT

FCC CFR Title 47 Part 15 Subpart B Section 15.107:

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was setup according to ANSI C63.4
2. The EUT was placed on a plat form of nominal size, 1 m by 1.5 m, raised 10 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 10 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50ohm / 50uH coupling impedance for the measuring equipment.
4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
8. During the above scans, the emissions were maximized by cable manipulation.

TEST MODE:

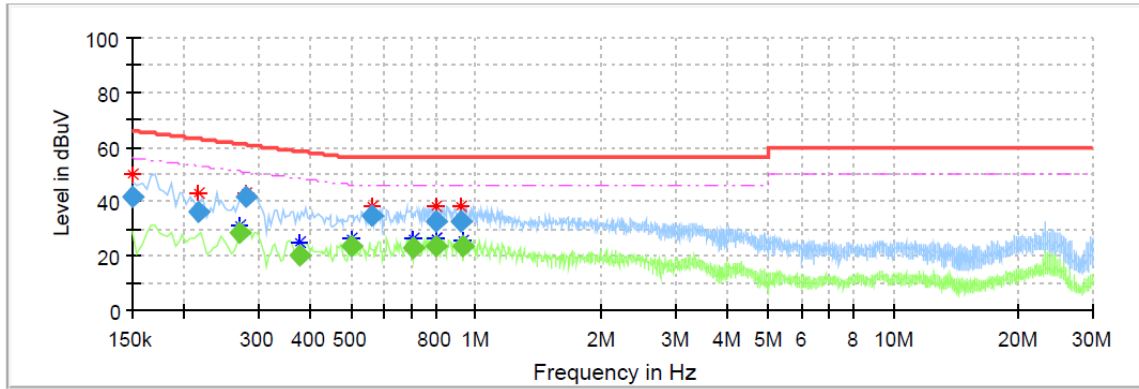
Please refer to the clause 4.1

TEST RESULTS

Passed Not Applicable

Test Line:

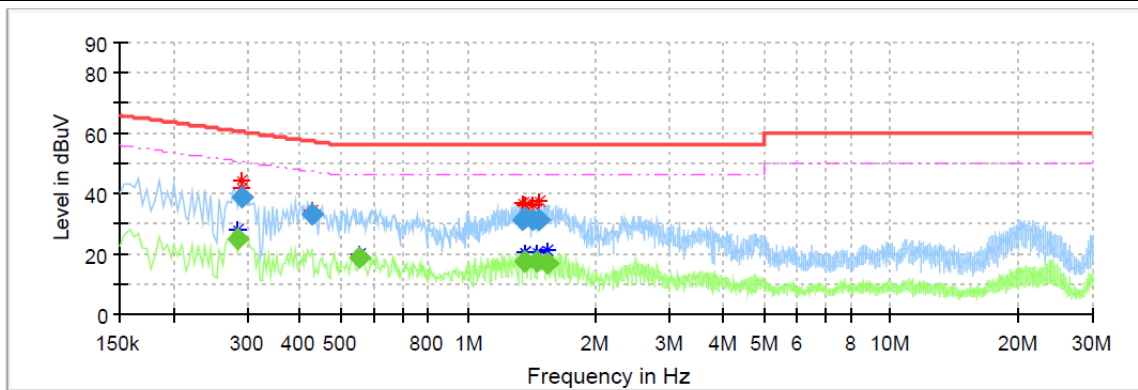
L



Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr. (dB)
0.150000	41.96	---	66.00	24.04	L1	10.1
0.215500	36.05	---	62.99	26.94	L1	10.1
0.271500	---	28.27	51.07	22.80	L1	10.1
0.279500	41.55	---	60.83	19.28	L1	10.1
0.376500	---	20.47	48.36	27.89	L1	10.1
0.503500	---	23.37	46.00	22.63	L1	10.1
0.559500	34.64	---	56.00	21.36	L1	10.1
0.703500	---	22.70	46.00	23.30	L1	10.2
0.799500	32.46	---	56.00	23.54	L1	10.2
0.803500	---	23.47	46.00	22.53	L1	10.2
0.915500	32.48	---	56.00	23.52	L1	10.1
0.927500	---	23.41	46.00	22.59	L1	10.1

Test Line:

N



Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr. (dB)
0.283500	---	25.13	50.71	25.58	N	10.1
0.291500	38.96	---	60.48	21.52	N	10.1
0.427500	33.09	---	57.30	24.21	N	10.1
0.555500	---	18.77	46.00	27.23	N	10.1
1.339500	31.36	---	56.00	24.64	N	10.1
1.355500	---	17.66	46.00	28.34	N	10.1
1.359500	31.58	---	56.00	24.42	N	10.1
1.359500	---	17.53	46.00	28.47	N	10.1
1.415500	31.46	---	56.00	24.54	N	10.1
1.451500	---	17.30	46.00	28.70	N	10.1
1.475500	31.42	---	56.00	24.58	N	10.1
1.531500	---	17.07	46.00	28.93	N	10.1

5.2. Radiated Emissions

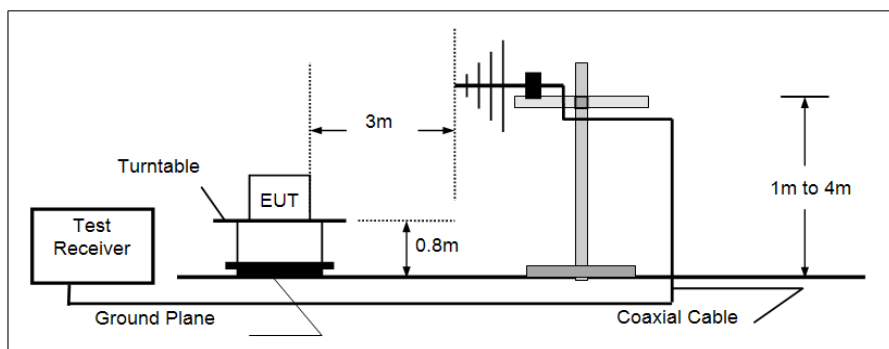
LIMIT

FCC CFR Title 47 Part 15 Subpart B Section 15.109

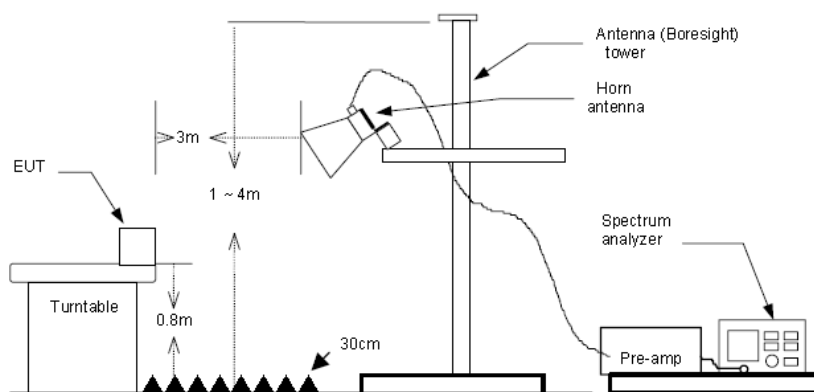
Frequency	Limit (dBuV/m @3m)	Value
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

➤ 30MHz ~ 1GHz



➤ Above 1GHz



TEST PROCEDURE

- The EUT was tested according to ANSI C63.4.
- The EUT is placed on a turn table which is 0.8 meter above ground.
- The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
- The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna.
- Use the following spectrum analyzer settings
 - Span shall wide enough to fully capture the emission being measured;
 - Below 1GHz,
 - RBW=120KHz, VBW=300KHz, Sweep=auto, Detector function=peak, Trace=max hold;
 - If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
 - From 1GHz to 5th harmonic, RBW=1MHz, VBW=3MHz

TEST MODE:

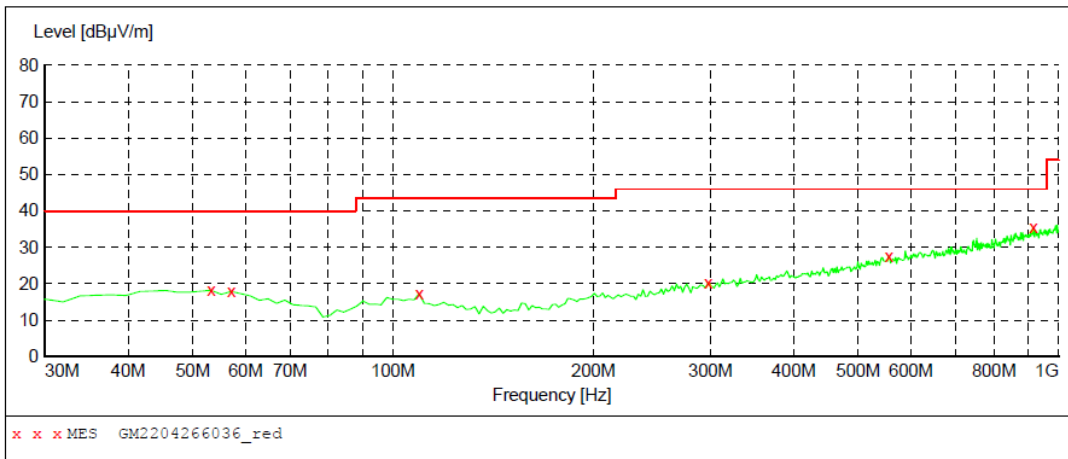
Please refer to the clause 4.1

TEST RESULTS

Passed **Not Applicable**

Note: Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
The emission levels of frequency above 6GHz are very lower than limit and not show in test report.

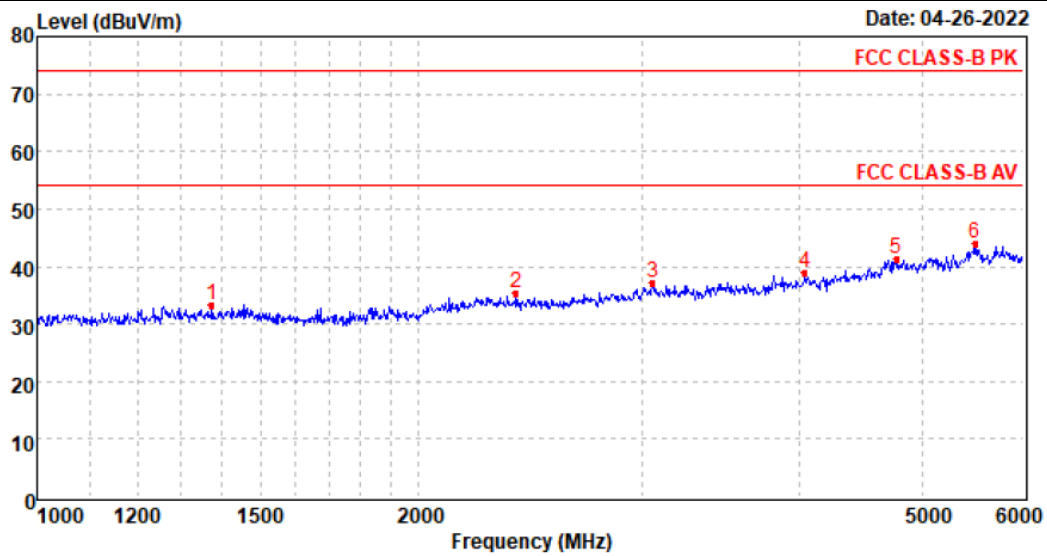
Test mode	Charging mode	Polarization:	Horizontal
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MEASUREMENT RESULT: "GM2204266036_red"

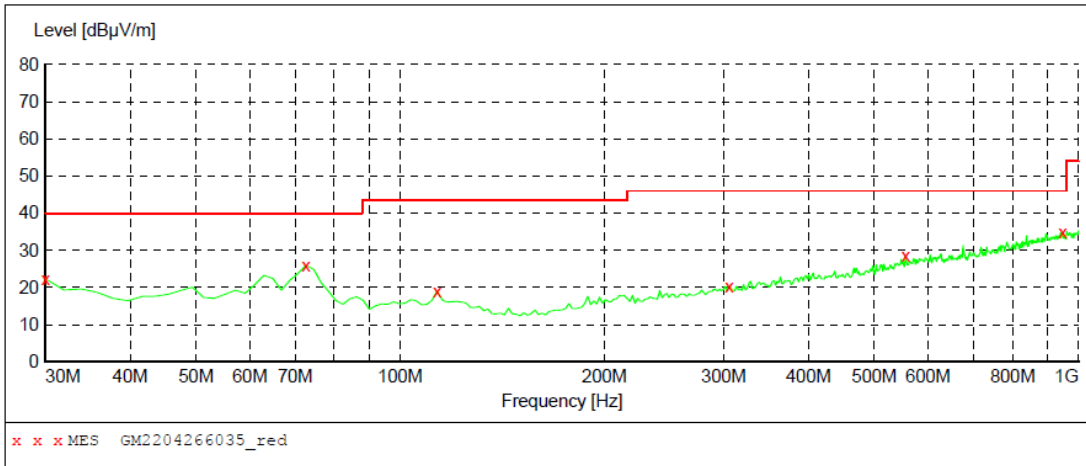
4/26/2022 9:54PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
53.280000	18.20	-9.3	40.0	21.8	QP	100.0	117.00	HORIZONTAL
57.160000	17.90	-9.7	40.0	22.1	QP	100.0	1.00	HORIZONTAL
109.540000	17.30	-11.9	43.5	26.2	QP	100.0	108.00	HORIZONTAL
297.720000	20.40	-7.4	46.0	25.6	QP	100.0	171.00	HORIZONTAL
555.740000	27.60	0.1	46.0	18.4	QP	100.0	268.00	HORIZONTAL
916.580000	35.50	7.1	46.0	10.5	QP	100.0	311.00	HORIZONTAL



Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1373.20	39.47	26.21	4.14	36.43	33.39	74.00	-40.61	Peak
2	2388.81	39.45	27.72	5.53	37.20	35.50	74.00	-38.50	Peak
3	3058.91	39.60	28.84	6.26	37.43	37.27	74.00	-36.73	Peak
4	4038.13	38.02	29.98	7.42	36.52	38.90	74.00	-35.10	Peak
5	4761.79	35.78	31.40	8.35	34.16	41.37	74.00	-32.63	Peak
6	5495.69	35.32	31.88	9.34	32.40	44.14	74.00	-29.86	Peak

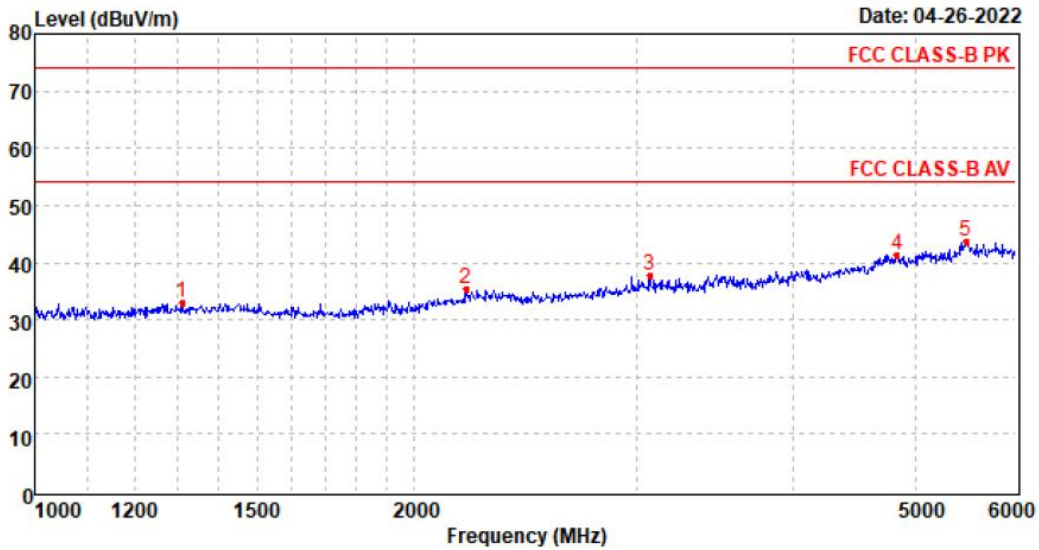
Test mode	Charging mode	Polarization:	Vertical
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MEASUREMENT RESULT: "GM2204266035_red"

4/26/2022 9:51PM

Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
30.000000	22.30	-12.7	40.0	17.7	QP	100.0	127.00	VERTICAL
72.680000	26.00	-13.9	40.0	14.0	QP	100.0	171.00	VERTICAL
113.420000	19.10	-12.2	43.5	24.4	QP	100.0	22.00	VERTICAL
305.480000	20.40	-7.1	46.0	25.6	QP	100.0	22.00	VERTICAL
555.740000	28.50	0.1	46.0	17.5	QP	100.0	41.00	VERTICAL
947.620000	34.80	7.6	46.0	11.2	QP	100.0	51.00	VERTICAL



Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1308.35	39.45	26.05	4.04	36.67	32.87	74.00	-41.13	Peak
2	2199.82	39.47	28.20	5.31	37.57	35.41	74.00	-38.59	Peak
3	3075.40	40.06	28.90	6.27	37.41	37.82	74.00	-36.18	Peak
4	4830.53	35.50	31.40	8.52	34.13	41.29	74.00	-32.71	Peak
5	5476.03	35.11	31.80	9.35	32.48	43.78	74.00	-30.22	Peak

6. TEST SETUP PHOTOS OF THE EUT

Conducted Emissions (AC Mains)



Radiated Emissions(30MHz-1GHz)



Radiated Emissions (Above 1GHz)



7. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

Refer to the test report No.: CHTEW22050037

-----End of Report-----